

We claim:

1. A closed loop vacuum cleaner for cleaning a floor surface comprising:
  - a foot portion containing an expanded chamber therein, said foot portion further including an intake nozzle and an outlet nozzle directed toward said chamber;
  - a managing unit containing a handle and support wheels;
  - a motor driven fan for creating air flow, said motor driven fan being supported by one of said foot portion and managing unit and being connected to said intake nozzle and said outlet nozzle to form a closed loop air system with said expanded chamber, and
  - means within said closed loop air system for filtering dirt and pollutants from the air within the system.
2. The closed loop vacuum cleaner of Claim 1 wherein the cross section of said outlet nozzle is larger than the cross section of said intake nozzle, thereby increasing the velocity of air at said intake nozzle while decreasing the velocity of air at said outlet nozzle.
3. The closed loop vacuum cleaner of Claim 2 further including a universal joint between said foot portion and said managing unit to thereby allow said foot portion to float above the floor surface being cleaned.

4. The closed loop vacuum cleaner of Claim 3 wherein said floating foot portion includes a seal around the perimeter thereof to close off the space between the surface being cleaned and the bottom of said foot portion from the surrounding space.

5. The closed loop vacuum cleaner of Claim 1 wherein said filtering means includes a low aerodynamic resistant high air stream velocity centrifugal filter.